

face for the display 120. In other such examples, the camera 118 of the vehicle 100 sends, via the communication module 114, the image of the advertisement 110 to the mobile device 102 to enable the billboard segmenter 126 of the mobile device 102 to generate the billboard interface for the display 120 of the vehicle 100.

[0033] Additionally or alternatively, the mobile device 102 of the illustrated example may present the billboard interface to the user 104 via a display (e.g., a display 414 of FIG. 4) of the mobile device 102. The billboard interface may be presented to the user 104 via the display of the mobile device 102 when the user 104 remains within the vehicle 100, after the user 104 exits the vehicle 100, and/or as the user is walking near the billboard 108. For example, the camera of the mobile device 102 may obtain the image of the advertisement 110 and the display of the mobile device 102 may present the billboard interface as the user 104 walks along a side of the road 106 near the billboard 108. Further, when the user 104 is in a public transportation vehicle (e.g., a bus, a train, etc.), the camera of the mobile device 102 may obtain an image of an advertisement (e.g., located in the public transportation vehicle, located on a billboard next to the public transportation vehicle, etc.) and the display of the mobile device 102 may present the billboard interface to the user 104.

[0034] FIG. 2 illustrates an example image 200 of the advertisement 110 of the billboard 108 that is obtained via a camera (e.g., the camera 408 of FIG. 4) of the mobile device 102 and/or the camera 118 of the vehicle 100. In the illustrated example, the image 200 includes a first segment 202 (the “HOT DOG STAND” logo), a second segment 204 (the “No Ketchup” slogan), a third segment 206 (a product image of a hot dog, a drink, and fries), a fourth segment 208 (an address of “555 W. Pederson Ave”), a fifth segment 210 (a phone number of “1-773-555-5555”), and a sixth segment 212 (“Just Ahead” directions).

[0035] The billboard segmenter 126 of the mobile device 102 includes an image recognition system that identifies one or more of the segments 202, 204, 206, 208, 210, 212 of the image 200. For example, the image recognition system identifies one or more of the segments 202, 204, 206, 208, 210, 212 of the image 200 via a deep neural network algorithm. In some examples, the image recognition system identifies one or more of the segments 202, 204, 206, 208, 210, 212 by identifying corresponding boundaries and features within the corresponding boundaries. The billboard segmenter 126 compares the features within the identified boundaries to segment entries of a database. Further, the database also includes event entries that correspond to the segment entries. When the billboard segmenter 126 matches a feature within a boundary of the image 200 with a segment entry of the database, the billboard segmenter 126 associates the segment of the image 200 with the corresponding event entry of the database. For example, the image recognition system identifies a boundary around the first segment 202, identifies a feature within the boundary (the “HOT DOG STAND” logo), compares the feature to the segment entries of the database, matches the boundary to one of the segment entries (a “HOT DOG STAND” entry), and associates the first segment 202 to a corresponding event entry (e.g., access a “HOT DOG STAND” website) of the database. Based on one or more of the segments 202, 204, 206, 208, 210, 212

of the image 200 of the advertisement 110 of the billboard 108, the billboard segmenter 126 generates a billboard interface.

[0036] FIG. 3 illustrates an example billboard interface 300 that is generated by the billboard segmenter 126. The billboard interface 300 is presented via the display 120 of the vehicle 100 to enable the user 104 of the vehicle 100 to obtain, utilize, navigate and/or interact with information associated with advertisement 110.

[0037] The billboard interface 300 of the illustrated example is based on the image 200 of the billboard 108. For example, the billboard interface 300 includes the first segment 202 (the “HOT DOG STAND” logo) defined by a boundary 302, the second segment 204 (the “No Ketchup” slogan) defined by a boundary 304, the third segment 206 (a product image of a hot dog, a drink, and fries) defined by a boundary 306, the fourth segment 208 (an address of “555 W. Pederson Ave”) defined by a boundary 308, and the fifth segment 210 (a phone number of “1-773-555-5555”) defined by a boundary 310. Each of the boundaries 302, 304, 306, 308, 310 of the billboard interface 300 defines a corresponding hyperlink that initiates a corresponding event. For example, the hyperlink defined by the boundary 302 opens a website of “HOT DOG STAND,” the hyperlink defined by the boundary 304 opens a social media page of “HOT DOG STAND,” the hyperlink defined by the boundary 306 opens a food-ordering app to place an order with “HOT DOG STAND,” the hyperlink defined by the boundary 308 prompts directions to be provided for a location of “HOT DOG STAND,” and the hyperlink defined by the boundary 310 initiates a phone call to a phone number of the location of “HOT DOG STAND.”

[0038] In the illustrated example, the billboard interface 300 has a different aspect ratio than that of the image 200 of the advertisement 110 of the billboard 108. For example, the aspect ratio of the billboard interface 300 may be defined to accommodate the dimensions of the display 120 of the vehicle 100. As illustrated in FIGS. 2 and 3, one or more of the segments 202, 204, 206, 208, 210 may be shifted and/or rearranged in the billboard interface 300 relative to their position in the image 200 to enable the segments 202, 204, 206, 208, 210 to fit within the aspect ratio of the billboard interface 300.

[0039] Further, in the illustrated example, each of the segments 202, 204, 206, 208, 210 of the billboard interface 300 are identical or substantially similar to the segments 202, 204, 206, 208, 210 of image 200 of the advertisement 110 of the billboard 108. In other examples, the billboard interface may include segments that are visually different, but correspond to, segments of the image 200.

[0040] Additionally, as illustrated in FIG. 3, the billboard interface 300 of the illustrated example does not include a segment that corresponds to the sixth segment 212 of the image 200. For example, the database may not include a segment entry that matches the sixth segment 212 and, thus, the billboard interface 300 generated by the billboard segmenter 126 does not include a corresponding segment.

[0041] FIG. 4 is a block diagram of electronic components 400 of the mobile device 102. As illustrated in FIG. 4, the electronic components 400 include a microcontroller unit, controller, or processor 402. Further, the electronic components include memory 404, a GPS receiver 406, a camera 408, a communication module 410, another communication module 412, and a display 414.